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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/776,680

02/10/2004

Yun-hyeok Im

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3786

20575 7590 10/31/2007  
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EXAMINER

CIRIC, LJILJANA V

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

10/31/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/776,680

Applicant(s)

IM ET AL.

Examiner

Ljiljana (Lil) V. Ciric

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3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-14 and 16-32 is/are pending in the application.
- 4a) Of the above claim(s) 13, 31 and 32 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-21 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-9, 12, 14, 16 and 22-30 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 10 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/5/2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Response to Amendment*

1. This Office action is in response to the reply filed on September 5, 2007.
2. Claims 1 through 10, 12 through 14, and 16 through 32 remain in the application. Of these, claim 22 has been amended and claims 13, 31, and 32 remain withdrawn from consideration as noted in greater detail below.

### *Response to Arguments*

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. .

### *Election/Restrictions*

4. Claims 13 (readable on the non-elected species characterized by a c-shaped spring) and 31 and 32 (readable on the non-elected Group II) remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the replies filed on March 7, 2007 and on October 19, 2006.

### *Drawings*

5. The replacement drawings for Figures 7 and 8 were received on September 5, 2007. These drawings are hereby approved.

### *Specification*

6. Receipt and entry of the amended abstract is hereby acknowledged.

### *Claim Objections*

7. Claim 16 is objected to because of the following informalities: "an" should be inserted immediately preceding "uneven surface" in each of lines 4 and 10 of the claim for improved grammatical correctness and readability. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

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8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Upon reconsideration, claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, claim 14 recites "a connection member, which *hinge*", however there is insufficient antecedent basis in the claims for the limitation "which hinge" and it is furthermore not clear whether a word or words are missing from the claim, thus rendering indefinite the metes and bounds of protection sought by the claim.

Also, there is insufficient antecedent basis for the limitation "the biasing member" [claim 27, line 1]. It appears that claim 27 should depend from claim 26 and not from claim 25.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply

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when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. Claims 1 through 3, 6 through 9, 12, 14, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Karr.

Karr discloses an apparatus essentially as claimed, including, for example: a semiconductor module (comprising heat transfer element 125 attached to at least one electronic component or package 120); two heat exchanger members (including a first heat exchange member 400A and a second heat exchange member 400B; portions 430A and 430B of the heat exchange members 400a and 400B have finned and thus uneven surfaces); a biasing or elastic member or spring 410A and 410B structured to provide a force that draws the first and second contacting portions of the first heat exchange member 400A and the second heat exchange member 400B towards each other [see Figure 4B, for example]; and, a connection member 415A and 415B configured to be placed on both sides of the semiconductor module [also see Figure 4B, for example].

The reference thus reads on the claims.

#### *Claim Rejections - 35 USC § 103*

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 22 through 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cipolla et al.

[Note: It is hereby assumed that the proper intended dependency of claim 27 is that claim 27 depends from claim 26 and not from claim 25 as written.]

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Cipolla et al. discloses a heat dissipater comprising a flat thermally conductive substrate or spreader 32, and a hinge or clamp structure 22 incorporating a coiled heat pipe 24 which may be disposed in a flexible Faraday cage and which acts as a biasing member or spring to force a portion of the thermally conductive substrate or spreader 32 adjacent to the top surface of one or more heat generating component 28 attached to a circuit board or CPU 16. The non-thermally conductive display screen 20 is disposed on the thermally conductive substrate or spreader 32 and is at least broadly readable on the thermal interface material as recited in claim 29 of the instant application. While Cipolla et al. does not show the flat thermally conductive substrate or spreader 32 as being elongated per se, it would have been obvious to one skilled in the art at the time of invention to modify the shape of the square-looking thermally conductive substrate or spreader 32 by making it elongated or rectangular in order to dissipate more heat to the sides of the display housing panel 18, for example. While Cipolla et al. also does not disclose there being a second elongated thermally conductive substrate, multiplication of parts for a compounded effect is not inventive either. Thus, it would have been obvious to one skilled in the art to provide two elongated thermally conductive substrates in order to dissipate twice as much heat from the heat generating components.

Similarly, while Cipolla et al. does not disclose that the thermally conductive substrate or spreader 32 is specifically made of aluminum, it would have similarly been obvious to one skilled in the art at the time of invention to modify the spreader or substrate 32 in a laptop computer by making the same out of aluminum in order to maximize the heat transfer capability of the spreader or substrate while minimizing the weight and the cost of the same.

*Allowable Subject Matter*

14. Claims 4, 5, 10, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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15. Claim 18 through 21 are allowed.


*Conclusion*

16. The additional prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner works a flexible work schedule but can normally be reached on most days during the work week between the hours of 10:30 a.m. and 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Ljiljana (Lil) V. Ciric  
Primary Examiner  
Art Unit 3744

Approved.  
LRC  
10-20-07

